

Performance of Black gram (*Vigna Mungo L.*) under natural and inorganic cultivation practices during vegetative stage in Yala season

Lavanya, S. and Sutharsan, S.

Black gram (*Vigna Mungo L.*) is an important legume crop in Asia, which serves as cash crop for farmers and as protein source for consumers. A field experiment was carried out at the crop farm, Eastern University Sri Lanka to study the comparative performance of black gram cultivated under natural and inorganic cultivation practices. Two separate plots, each having 50 square meter of extent were used. Green manures, natural fertilizers, pest repellents and mulch were used as natural cultivation practices. For the inorganic cultivation, the guidelines of Department of Agriculture, Sri Lanka were adopted. Total number of leaves, plant height, plants per unit area, leaf area and biomass were measured at weekly intervals during vegetative stage. The results revealed that the number of plants per unit area in black gram cultivated naturally was significantly ($p < 0.05$) higher (38.7 plants/m²) than that of inorganically grown black gram (24.7 plants/m²). There were no significant differences in the number of leaves per plant in natural crop and inorganic crop. Total leaf area was not significantly differed between natural (722.39cm²) and inorganic black gram (600.55cm²). Plant height was significantly ($p < 0.05$) higher in naturally treated black gram (37.0cm) than that of inorganic black gram (24.7cm). Total biomass per plant significantly differed in crops grown under both methods of cultivation. Based on the results, It may be concluded that performance of black gram at vegetative stage is almost similar in both methods of cultivation. Further continuous experiment up to maturity stage is being established to understand the complete growth and yield of black gram under these two methods of cultivation practices.

Key words: Black gram, Natural cultivation, Inorganic cultivation